KDOW USE ONLY
AI #:

SRF No.:

Score:

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection
Kentucky Division of Water
Kentucky Clean Water State Revolving Fund (CWSRF)
Wastewater Project Questionnaire Form

ATTENTION: This form is for WASTEWATER PROJECTS ONLY. Please do not submit drinking water projects on this form.

PURPOSE: The purpose of this questionnaire is to gather information concerning potential projects eligible for funding from the Clean Water State Revolving Fund (CWSRF). The CWSRF was established through amendments to the Clean Water Act (CWA) to provide low-interest rate financing for construction of publicly owned treatment works (as defined in Section 212 of the Clean Water Act) or any project or activity that implements the Kentucky Nonpoint Source Management Program. This information will be used to develop a priority list of projects that will be eligible for assistance from the CWSRF. Please review the instructions, sign and date the questionnaire and submit to:

Water Infrastructure Branch
Attn: CWSRF Coordinator
Kentucky Division of Water
200 Fair Oak Lane, 4th Floor
Frankfort, Kentucky 40601
Email attachment to:anshu.singh@ky.gov

I. APPLICANT INFORMATION

1. Applicant:
2. KPDES #
3. Address:
4. City / Town: County(ies):
5. Phone: ( ) -
6. Fax:

KENTUCKY CLEAN WATER SRF PROJECT QUESTIONNAIRE FORM (CONTINUED)

II. AUTHORIZED OFFICIAL

1. Name:
2. Title:
3. Address:
4. City / Town: County(ies):
5. Phone: ( ) -
6. Fax:

III. CONTACT PERSON

1. Name:
2. Title:
3. Address:
4. City / Town: County(ies):
5. Phone: ( ) -
6. Fax:

IV. PROJECT INFORMATION

1. **PROJECT TITLE:**

2. **WRIS # SX:**
   This number is assigned by an Area Development District (ADD) through the respective Area Water Management Planning Council once the project profile is approved by the Council. This number ties each project to mapped/spatial information in the Water Resource Information Systems (WRIS). Projects without the number and the required corresponding mapped/spatial information will not be accepted.

KENTUCKY CLEAN WATER SRF PROJECT QUESTIONNAIRE FORM (CONTINUED)

3. **PROJECT DESCRIPTION AND LOCATION:**
   Please include a detailed project description and maps showing the proposed project area and location or all existing and proposed facilities relating to the project. Please include any landmarks, highways, streams, etc. that would aid in locating the project area. Include latitude and longitude coordinates of the project or discharge locations, if known, on the map. Please attach additional sheets if necessary.

4. **TOTAL PROJECT COST: $**

5. **ESTIMATED CWSRF LOAN AMOUNT: $**

6. **LIST OTHER FUNDING SOURCES AND AMOUNTS (IF KNOWN):**

Funding Source:	Amount ($):

7. **PROJECT SCHEDULE**:
   List target or actual dates for submission of the following items to KDOW or KIA:

Task:	Date:
Loan Application	
Facility Plan Approval	
Environmental Review Documents	
Construction Permit Application	
KPDES Discharge Permit Application	
Estimated Start Date of Construction	

8. **POPULATION SERVED:**

Population:	Number Served:
By the project	
By the system	

9. **WASTEWATER VOLUME:**

Population:	Million Gallons per Day:
For the project	
For the system	
Eliminated/conserved by this project	

V. PROJECT NEEDS CATEGORY (CHECK ALL THAT APPLY):

1. ☐ Combined Sewer Overflow (CSO) Correction
2. ☐ Sanitary Sewer Overflow (SSO) Correction
3. ☐ Replacement or Rehabilitation of Aging Infrastructure
4. ☐ New Treatment Plant
5. ☐ New Collector Sewers and Appurtenances
6. ☐ Decentralized Wastewater Treatment Systems
7. ☐ Upgrade to Advanced Treatment
8. ☐ Upgrade/Expansion of Existing Treatment Plant
9. ☐ New Interceptors and Appurtenances
10. ☐ Storm Water Control
11. ☐ Nonpoint Source (NPS) Pollution Control
12. ☐ Recycled Water Distribution
13. ☐ Planning
14. ☐ Other (specify):

KENTUCKY CLEAN WATER SRF PROJECT QUESTIONNAIRE FORM (CONTINUED)

VI. REGIONALIZATION/DECENTRALIZATION

1. Will the project provide regionalization and/or consolidation of wastewater treatment systems?

   ☐ Yes ☐ No

2. Will this project provide an on-site, mound, and/or clustered decentralized wastewater treatment system?

   ☐ Yes ☐ No

VII. COMPLIANCE AND ENFORCEMENT

1. Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? (Please attach a copy of the order or decree.)

   ☐ Yes ☐ No

2. Is the project improvement necessary to allow the system to maintain compliance?

   ☐ Yes ☐ No

3. Will the project achieves voluntary compliance (violation with no order)?

   ☐ Yes ☐ No

VIII. WATER QUALITY

1. Will the project have a positive impact on drinking water sources within a 5-mile radius of its location?

   ☐ Yes ☐ No

2. What receiving waterbody/waterbodies will be impacted by the project discharge (if any)?

IX. FINANCIAL NEED

1. What is the Median Household Income (MHI) of the service area?

   ☐ Less than $26,938 ☐ Between $26,938 and $33,672

X. SUSTAINABLE AND/OR GREEN INFRASTRUCTURE INCENTIVES

1. Energy Efficiency:

☐ Project reduces energy costs and consumption by replacing, reducing and/or controlling high-use operations such as motors, pumps, aeration systems, dewatering systems used in collection, pumping, storage, treatment, reuse/discharge and support systems (e.g., lighting and HVAC).

☐ Project utilizes SCADA (Supervisory Control And Data Acquisition) system, which performs data collection and control at the supervisory level that is placed on top of a real-time control system (multiple Programmable Logic Controls [PLC's] to reduce energy consumption and enhance process control.

☐ Facility site planning includes facilities and building components designed to maximize energy efficiency.

☐ Project/system has conducted an energy audit and/or energy reduction plan.

2. Green Infrastructure:

☐ Project utilizes storm-water capture and/or rain harvesting techniques.

☐ Construction/enhancement/restoration of wetland(s).

☐ Protection and enhancement of riparian buffers and floodplains.

☐ Environmentally Innovative Technologies/Other (Specify):

☐ Low impact construction technology is used to minimize impacts to the existing surface.

3. Asset Management/Full-Cost Pricing:

☐ System has mapped its wastewater collection and treatment components and analyzed conditions, including risks of failure, expected dates of renewals and ultimate replacements, and sources and amounts of revenues needed to finance operations, maintenance and capital needs (e.g., Capital Improvement Plan).

☐ Project/System has developed appropriate pricing/rate/affordability standards to build, operate, and maintain systems.

☐ Project/System has specifically allocated funds for the rehabilitation and replacement of aging and deteriorating infrastructure.

SIGNATURE OF APPLICANT:

KENTUCKY CLEAN WATER SRF PROJECT QUESTIONNAIRE FORM (CONTINUED)

Instructions for Completing the Kentucky CWSRF Wastewater Project Questionnaire Form

The questionnaire form is used to gather information concerning potential projects eligible for funding from the CWSRF. This information will be used to evaluate projects to determine ranking criteria points and assign the project a numeric score.

I. Applicant Information

1. **Applicant**: This is the actual owner of the system (ex. City or County Water District). If the project involves a treatment plant, also provide the name of the plant.

2. **KPDES #** (if known): All discharges to waters of the commonwealth require a Kentucky Pollutant Discharge Elimination System (KPDES) permit. See this Web page for a list of specific permit applications or for access to a list of all KPDES discharge permit applications:
   http://www.water.ky.gov/homepage_repository/kpdes_permit_aps.htm

3. through 5. **Address/Phone/Fax**: Applicant's physical address, please include city, county and zip code. The applicants phone number where they can most easily be reached if needed regarding question and/or concerns. The applicants fax number where they can be sent or send documents if needed.

II. Authorized Official

1. **Name**: This is the official for the system having signatory authority.

2. **Title**: Official title of the signatory authority.

3. through 5. **Address/Phone/Fax**: Official's address - may be the same as applicant's and can be marked as such.

III. Contact Person

1. **Name**: This is the project manager/ consulting engineer having signatory authority.

2. **Title**: Official title of the system signatory authority.

3. through 5. **Address/Phone/Fax**: Official's address - may be the same as applicant's and can be marked as such.

IV. Project Information

1. **Project Title:** The working title for this project.

2. **WRIS # SX**: The project number for the WRIS (if known).

3. **Project Description and Location**: Please include a detailed project description and map(s) showing the proposed work area and location of all existing and proposed facilities related to the project. List the primary components of the project (e.g. size and length of sewer lines, size of treatment plant, type of treatment, elements of best management practices, etc.). Please include any landmarks, highways, streams, etc that would be helpful in locating the project site. Include latitude and longitude coordinates of the project or discharge locations, if known, on the map. Please attach additional sheets if necessary.

4. **Total Project Cost**: This should include all costs associated with the project including planning, design, construction, administration, etc.

5. **Estimated CWSRF Loan Amount**: Estimated CWSRF loan amount (may be different from estimated total cost of the project). Should match the KIA loan amount requested.

6. **Other Funding Sources and Amounts**: List other funding sources and amounts if known that will be used to cover the total project cost.

7. **Project Schedule**: List the target dates (or actual dates, if already completed) if applicable for submitting the loan application, facility plan approval, environmental review documents, construction permit application and KPDES discharge permit application. KDOW recommends contacting the Wastewater Planning Section for planning and construction requirements and submitting a Wasteload Allocation Request for a new or expanded WWTP to the Surface Water Permits Branch as early as possible. This may be done prior to submitting a completed Project Questionnaire Form and a loan application. Projects selected for the Fundable List generally have started or completed these steps.

8. **Estimated Start Date of Construction**: This date is important for determining how long until a project may be ready to receive funding, which is a significant factor in selecting projects to include on the Fundable List for each fiscal year.

9. **Population Served**: Report projected population numbers, i.e., the population that will be served at project completion. For “project,” enter the number of people that the project serves directly. For “system,” enter the number of people connected to the discrete, permitted facility or systems the project funded by the Clean Water State Revolved Fun (CWSRF) affects.

10. **Wastewater Volume**: For “project,” enter the flow that it directly affects. For “system,” this figure could be equivalent to the flow for the system, the design flow obtained from the engineering plans or updated permit for the facility. Use average daily flow figures or the closest available. The flow for the project may be the same as for the system or might be different, if the project is only for a portion of the system. For the “eliminated/conserved by this project,” enter the estimated amount of overflow, treatment, or effluent discharge avoided. For CSO, SSO, conservation, reuse, and similar projects, flow figures will not be comparable to those for treatment facilities. Use the Volume Eliminated/Conserved/Reused field to record the estimated amount of overflow, treatment, or effluent discharge avoided. Note: When flow cannot be accurately calculated for each phase of a phased project, please use your best professional judgment and explain your estimate.

V. Project Needs Category

EPA defines a need as a project, with associated costs, that addresses a water quality or public health problem. The following needs categories are defined. Select all the needs categories that apply to the project.

1. Combined Sewer Overflow (CSO) Correction- Correction measures used to achieve water quality objectives by preventing or controlling periodic discharges of a mixture of storm water and untreated wastewater (combined sewer overflows) that occur when the capacity of a sewer system is exceeded during a rainstorm.

2. Sanitary Sewer Overflow (SSO) Correction- Control of sanitary sewer overflows caused by excessive infiltration and inflow into the sanitary sewer collection system. The problem of water penetration into a sewer system from the ground through such means as defective pipes or manholes (infiltration) or from sources such as drains, storms sewers, and other improper entries into the systems (inflow). Sanitary sewer overflow refers to overflow, spill, release, or discharge of untreated or partially treated wastewater from a sanitary sewer system.

3. Replacement or Rehabilitation of Aging Infrastructure, including correction of moderate infiltration and inflow (i.e., no associated SSO)- Reinforcement or reconstruction of structurally deteriorating interceptor or collector sewers and pipes used to collect and convey wastewater by gravity or pressure flow to a common point. Projects that propose to correct moderate infiltration and inflow (i.e., no associated SSO) go under this criterion.

4. New Treatment Plant- Construction of a new facility including any devices and systems used in the storage, treatment, recycling or reclamation of municipal sewage, sewage sludge, and biosolids, or industrial waste.

5. New Collector Sewers and Appurtenances- Install new pipes used to collect and carry wastewater from a sanitary or industrial wastewater source to an interceptor sewer that will convey the wastewater to a treatment plant.

6. Decentralized Wastewater Treatment Systems- This includes onsite, mound, and/or cluster treatment systems that process household and commercial sewage that may include, but are not limited to, septic systems, disposal beds and packaged wastewater treatment plants configured to treat and dispose of the wastewater without offsite discharge. Usually the wastewater is percolated into the soil through infiltration beds or trenches or is disposed by irrigation or other means. These systems must have sub-surface discharge to be accepted by the KDOW.

7. Upgrade to Advanced Treatment- Upgrade of a facility to a level of treatment that is more stringent than secondary treatment or produces a significant reduction in nonconventional pollutants.

8. Upgrade/Expansion of Existing Treatment Plant- Upgrades, improvements, or expansion of existing treatment plant.

9. New Interceptors and Appurtenances- Install new major sewer lines receiving wastewater flowers from collector sewers. The interceptor sewer carries wastewater directly to the treatment plant or another interceptor.

10. Storm Water Control- Storm water is defined as runoff water resulting from precipitation. Includes activities to plan and implement municipal storm water management programs with environmental benefits pursuant to National Pollutant Discharge Elimination System permits for discharges from municipal separate storm sewer systems.

11. Nonpoint Source (NPS) Pollution Control- NPS project may include, but not limited to, stream restoration, Best Management Practices, and land purchases.

12. Recycled Water Distribution- Project that may include, but are not limited to, the recycling of nonpotable water or reclaimed water for irrigation and other nonpotable uses.

13. Planning- Developing plans to address water quality and water quality-related public health problems that are supported by sound science and appropriate technology. Examples included Watershed-Based Plan, Total Maximum Daily Loan Implementation Plans and Long-term Control Plans for Combined Sewer Overflow (CSO).

14. Other (specify): Any project that does not meet the list of project needs definitions and/or standards provided above.

VI. Regionalization/Decentralization:

1. Regionalization: Regionalization occurs when smaller systems integrate part or all of their wastewater management systems to reduce costs, improve service, and maintain regulatory compliance. Smaller systems, regardless of ownership status, lack economics of scale and are having an increasingly difficult time finding the capital and human resources required to comply with stringent water quality standards to remain viable. Large wastewater systems are generally encouraged to acquire smaller systems in an effort to address the growing number of unviable wastewater systems. Regionalized wastewater treatment approach may significantly minimize wastewater impacts, resulting in a reduced number of NPDES discharges. This includes projects that will combine and/or eliminate one or more existing treatment plants, result in the abandonment of one or more wastewater treatment plants and connection to an existing wastewater treatment plant, acquisitions of smaller systems by larger systems, and/or mergers between utilities.

2. Decentralization: When properly managed, decentralized treatment systems are affordable, viable, long-term alternatives to centralized wastewater treatment, particularly in small-town, rural, and suburban areas. These include onsite, mound, and/or cluster treatment systems that treat and disperse relatively small volumes of wastewater from individual or small numbers of residential and commercial buildings. These systems may include, but are not limited to, septic systems with drainfields, mounds, cluster systems and packaged wastewater treatment plants configured to treat and dispose of the wastewater without offsite discharge. Usually the wastewater is percolated into the soil through infiltration beds or trenches or is disposed by irrigation or other means.

VII. Compliance and Enforcement:

This section addresses the lack of intention or ability to comply with the National Pollutant Discharge Elimination System permit- the national systems for the issuance of permits under section 402 of the Federal Clean Water Act (33 U.S.C.A § 1342). If the project is necessary to achieve, maintain or provide voluntary compliance please indicate such in this section. Please provide a copy of the order or decree if applicable.

VIII. Water Quality:

This section addresses whether a project makes reasonable progress towards achieving water quality standards, eliminating impairments of Kentucky's waterbodies and correcting existing public health problems.

XI. Financial Need:

This section of the project ranking criteria considers the importance or the ability of facilities/systems to acquire and manage sufficient financial resources to achieve and maintain regulatory compliance according the Median Household Income level of the state of Kentucky.

X. Sustainable and/or Green Infrastructure Incentives:

Green infrastructure offers another strategy that may be used to reduce negative environmental impacts. The U.S. Environmental Protection Agency (EPA) defines green infrastructure as "management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapo-transpiration, capture and reuse" (USEPA, 2008). This management approach attempts to keep stormwater onsite and reduce excess flows entering combined or separate sewer systems in combination with, or in lieu of centralized hard infrastructure solutions. It incorporates vegetation and natural resources as much as possible in development and redevelopment. Green Infrastructure has a number of benefits, including reduced runoff, groundwater recharge, higher air quality, better aesthetics, reduces costs, lowers impacts on climate change, and provides environmental benefits that surpass improved water quality. Some methods include, but are not limited to green roofs, rain harvesting, downspout disconnection, planter boxes, trees and tree boxes, rain gardens, porous/permeable pavements, vegetated swale/bioswales, brownfield development, infill and redevelopment, green parking, green streets and highways, pocket wetlands, and riparian buffers which reduce runoff from a site and within parking lots. In addition, environmentally innovative projects would include those that demonstrate new and/or innovative approaches to delivering service and/or managing water resources in a more sustainable way, including projects that achieve public health protection and environmental protection objectives within which life cycle costs (including infrastructure, energy consumption and other operational costs) are minimized.

Sustainable infrastructure is defined as practices that meet the current needs while ensuring the continued viability of a product or practice well into the future. In considering infrastructure, the U.S. population today benefits from the investments that were made over the past several decades to build our nation's water infrastructure. Looking forward, the EPA wants to promote practices that encourage utilities and their customers to address existing needs so that future generations will not be left to address the eminent wave of infrastructure needs that will result from aging infrastructure. EPA is committed to promotion of sustainable practices that will help to reduce the potential gap between funding needs

and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how the nation views, values, manages, and invests in its water infrastructure. EPA is working with the water industry to identify best practices that have helped many of the Nation's utilities address a variety of management challenges and extend the use of these practices to a greater number of utilities. The EPA believes that collaboration with a coalition of leaders can build a roadmap for the future promotion of sustainable infrastructure (USEPA, 2008).

The three categories of Sustainable and/or Green Infrastructure will be considered incentives by the Kentucky Division of Water, and projects that incorporate components from any of the categories will receive bonus points on the project priority ranking for wastewater projects. **If a category is selected, the applicant must provide proof to substantiate claims.**

A. Energy Efficiency

1. Project reduces energy costs and consumption by replacing, reducing and/or controlling high-use operations such as motors, pumps, aeration systems, dewatering systems used in collection, pumping, storage, treatment, reuse/discharge and support systems (e.g., lighting and HVAC)
   Explanation: Wastewater treatment facilities employ high-use energy operations which have associated potential energy saving measures. For example, pumps and treatment processes account for the majority of energy use. Though currently relatively small, the share of energy consumption in water treatment processes is growing due to improvements in pumping plant efficiency and requirements for greater levels of water treatment. Energy costs can account for 30% of operation and maintenance costs and account for approximately 3% of the electric load in the United States. Energy efficiency and energy conservation measures taken through retrofitting and upgrading system components can often result in increased treatment capacity, increased ability to meet effluent limitations, reduced operation and maintenance requirements, and reduced energy costs.

2. Project utilizes SCADA (Supervisory Control And Data Acquisition) system, which performs data collection and control at the supervisory level that is placed on top of a real-time control system (multiple Programmable Logic Controls [PLC's]) to reduce energy consumption and enhance process control.
   Explanation: When a SCADA system performs data collection and control at the supervisory levels and is used in conjunction with a real-time control system to control processes external to the SCADA system, energy saving can be realized.

3. Facility site planning includes facilities and building components designed to maximize energy efficiency.
   Explanation: A facility can maximize energy efficiency by designing:
   a. Buildings have south-facing windows to provide good daylight and optimize solar gain;
   b. Roofs and hardscape (e.g. roads, sidewalks, and parking lots) are shaded or made with materials that have a high solar reflectance (i.e. white or gray in color) to reduce heat island effects; for example, trees are planted that will shade 50% of roofs and hardscape within 10 years of project completion.

4. Project/System has conducted an energy audit and/or energy reduction plan.
   Explanation: The EPA estimates that wastewater and drinking water utility energy consumption can account for 30-60% of a city's energy bill. A utility can save energy and money by conducting an energy audit and implementing an energy reduction plan. An effective energy reduction plan may include:
   a. Conduct and energy audit by working with a professional consultant or an energy utility;
   b. Create a system to track energy usage and costs;
   c. Upgrade equipment, systems, and controls including facility and collection system improvements to increase efficiency; for example, variable frequency drives, fine bubble diffusers, high-efficiency motor, high-efficiency HVAC (i.e., energy star rated);
   d. Develop a cost effective energy supply purchasing system; for example, working with an energy utility to purchase energy at a reduced cost during low-demand periods;
   e. Optimize load profiles by shifting operations where possible;
   f. Develop in-house energy management training for operators.

B. Green Infrastructure

1. Project utilizes storm-water capture and/or rain harvesting techniques.
   Explanation: The elimination of stormwater in combined or separate sewer systems may reduce the volume, frequencies and wastewater transport/treatment costs. During a rain event, uncontaminated stored and filtered stormwater and rainwater can alleviate flooding, recharge groundwater, and improve water quality. Furthermore, rainwater diverted for reuse as irrigation water can save costs. Improving the quality of surface and groundwater may reduce the cost of treatment for drinking water utilities.

2. Project includes construction/enhancement/restoration of wetland.
   Explanation: Wetlands improve water quality, alleviate flooding, recharge groundwater and reduce greenhouse gases via natural processes. Improving the quality of surface and groundwater may reduce the cost of treatment for drinking water utilities and result in the reduction of wastewater volume, frequency and treatment costs for facilities. Communities may realize these benefits by creating, restoring, or expanding wetlands and restoring streambanks. **Federal rules prevent the SRF Loan Programs from providing financing assistance for a wetland **required as a mitigation measure**.

3. Project includes protection and enhancement of riparian buffers and floodplains.
   Explanation: Riparian buffers are naturally vegetated area adjacent to waterways, including streams, ponds, estuaries and wetlands. Vegetative buffers enhance infiltration of rainfall and runoff and provide absorption for stormwater flows, which helps to regulate the flow of the stream and reduces downstream flooding during a storm. Riparian buffers also intercept and diffuse concentrated flow from upland and adjacent land use, slowing the velocity and reducing the volume of the flow. Riparian buffers also protect water quality by filtering out pollutants, capturing sediment and particulates and processing contaminants. Protection and enhancements of riparian buffers can be prescribed as a best management practice to prevent damage to streams and watersheds caused by stormwater runoff that results when land is disturbed or developed. Riparian buffers can be installed and/or preserved on a site to manage and prevent stormwater.

A floodplain is flat or nearly flat lowland bordering a stream or river that experiences occasional or periodic flooding. The floodplain corridor acts as a "right-of-way" for a stream or river and performs important natural functions, including temporary storage or floodwater and/or stormwater, peak flows/discharge control, maintenance of water quality, groundwater recharge, and prevention of erosion. The protection and enhancement of floodplains can provide benefits such as flood control, erosion control and stormwater management and water quality services.

4. Project includes environmentally innovative technologies/Other (This category will need to be specified).
   Explanation: Environmentally innovate technologies/projects would include those that demonstrate new and/or innovate approaches to delivering service and/or managing water and wastewater resources in a sustainable way, including projects that achieve public health and environmental protection objectives at the least life-cycle costs. Green Infrastructure includes a wide array of practices that manage wet weather to maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater. In addition to managing rainfall, these green infrastructure technologies can simultaneously provide other benefits such as reducing energy demands. Green infrastructure can effectively be used in combination with conventional storage, collection, and treatment systems to meet infrastructure needs, often with low capital and/or operational costs.

5. Low impact construction technology is used to minimize impacts to the existing surface.
   Explanation: The installation or rehabilitation of wastewater collection systems by open-cut construction can cause significant disturbance. Utilities that use low-impact technologies to complete pipe installation reduce environmental impacts, soil erosion, traffic obstructions, and, in some cases, construction costs. Furthermore, fewer traffic obstructions may increase public safety. Examples of low-impact pipe installation/rehabilitation technologies include pipe bursting, cured in place pipe (CIPP), slip-lining, horizontal directional drilling (HDD), bore and jack, robotic lateral methods, fold and form pipe, and spiral wound.

C. Asset Management/Full-Cost Pricing

1. System has mapped its wastewater collection and treatment components and analyzed conditions, including risks of failure, expected dates of renewals and ultimate replacements, and sources and amounts of revenues needed to finance operations, maintenance and capital needs (e.g., Capital Improvement Plan).
   Explanation: There is a need for substantial investments in the nation's aging and deteriorating drinking water and wastewater infrastructure. To ensure investment needs are met in an efficient, timely and equitable manner, innovative responses and integrated approaches to system management are needed. Wastewater systems need to conduct a full accounting of the costs to manage their assets, both for current operations and future investment needs. Asset management is an approach for an integrated assessment of future capital and operating needs and ensuring investments are made efficiently. By appropriately managing its assets, a system may be able to reduce its overall investments needs. Five important steps in an asset management process include taking inventory, prioritizing assets, developing an asset management plant, implementing the asset management plant and reviewing and revising the asset management plan.

2. Project/system has developed appropriate pricing/rate/affordability standards to build, operate, and maintain systems.
   Explanation: Utilities/Systems need to implement pricing structures to cover the costs of drinking and wastewater systems. They do not adequately account for their investment needs and charge rates below cost; therefore, they generate insufficient revenue to finance investment, and will need to increase their rates. Programs will also need to address affordability issues through mechanisms such as lifeline rates for low-income customers. Drinking water and wastewater utilities must be able to price services to reflect the full costs of treatment and delivery. Full-cost pricing would tend to increase system revenues and allow municipalities to provide their services in an economically efficient manner. Pricing that recovers the costs of building, operating, and maintaining a system is absolutely essential to achieving sustainability. Generally, most customers do not understand what is involved in the treatment and distribution of drinking water and the collection and treatment or wastewater or that the water and wastewater industry is an extremely capital-intensive business. Although unseen and taken for granted by the public, drinking water and wastewater infrastructure have been the essential building blocks for any advanced society. Public education is need to explain to rate payers the true costs to build, operate and maintain these systems and the associated need for rate increase. To foster more realistic pricing/rate/affordability structures, the KDOW and EPA support municipalities efforts to develop these structures by making useful models and tools readily available and are willing to work with utilities to develop and share pamphlets, websites and public service announcements to increase public awareness of the full cost of operating and maintaining drinking water and wastewater systems. To help utilities recognize that they must implement pricing structures that effectively recover costs and promote environmentally sound decisions by customers, the EPA has developed an extensive website focused on Water and Wastewater Pricing (http://www.epa.gov/waterinfrastructure/fullcostpricing.html).

3. Project/system has specifically allocated funds for the rehabilitation and replacement of aging and deteriorating infrastructure.
   Explanation: Utilities/Systems have conducted inventory-based approaches to infrastructure planning and asset management. They have accounted for the physical assets in their inventory by assessing the age, condition, and importance of each asset. Based on assessments and data collection, systems are managing their investments/budgets where they are needed most and have planned for the replacement of their assets. These investments/budgets would include sources and amount of revenues sufficient to finance operations, maintenance and capital needs required by the asset analyses.

NOTE: Answer questions as completely as possible, including reference to the water quality criteria listed in the KY IPPRS document. Attach additional pages, reports, or other documentation that may support the responses. DOW staff (Groundwater Branch, Watershed Branch, Drinking Water Branch, KPDES Branch, Water Infrastructure Branch and Water Quality Branch) and the websites listed below can assist in finding this information. In addition, the local Area Development Districts may be able to assist. Please sign and date the Project Questionnaire Form and submit it to DOW no later than December 21, 2009.

Useful Websites:

Approved TMDL Information:
http://www.water.ky.gov/sw/tmdl/Approved+TMDLs.htm
2008 Integrated Report to Congress on Water Quality:
http://www.water.ky.gov/sw/swmonitor/305b/default.htm
Full-cost Pricing: http://www.epa.gov/waterinfrastructure/fullcostpricing.html
Green Infrastructure: http://cfpub.epa.gov/npdes/home.cfm?program_id=298
Groundwater information: http://kygeonet.ky.gov/metadataexplorer/
SWAPP/WHAP Information: http://eppcmaps.ky.gov/website/watershed/viewer.htm
Special Water Information: http://www.water.ky.gov/sw/specialwaters/
Sustainable Infrastructure Information: http://www.epa.gov/waterinfrastructure/